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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/057,957	01/29/2002	Lawrence Wilcock	1509-268	3549

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EXAMINER	
PENDLETON, BRIAN T	
ART UNIT	**PAPER NUMBER**
2644	

DATE MAILED: 09/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/057,957	WILCOCK ET AL.	
	Examiner	Art Unit	
	Brian T. Pendleton	2644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 January 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 January 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☒ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

BY

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 10, 11, 15-18, 24, 25, 29-32, 38 and 39 are rejected under 35 U.S.C. 102(b) as being anticipated by Courneau et al, US Patent 5,987,142. Courneau discloses a sound spatialization method and system for use in an aircraft comprising head position detector 3, inertial unit 4, counter measure unit 5, alarm management system 6, sound source manager 12, orienting device 13, a plurality of binaural processors 8 connected to adder 9, and audio listening circuits 14. Sound sources are connected to bus 2 (column 2 lines 36-38). Sound source manager 12 is responsible for setting the location of each sound source relative to an associated one of multiple audio field references. Column 2 lines 23-27 teach that the position of the sound source changes as function of the motions of the pilot's head and the motions of the aircraft. As disclosed in column 3 lines 35-46, the sound source manager 12 spatializes certain sources according to the inertial unit 4 which tracks orientation of the aircraft (column 3 line 19). Thus, the audio field references are user's head and the aircraft's orientation. Sound source manager 12, as a result, independently controls an offset between each audio field reference and a presentation reference determined by a mounting configuration (head position detector 3, inertial unit 4) of audio output devices. Orienting device 13 determines a rending position of each sound source. Binaural processors 8 and audio listening circuits 14 render each sound source at their

associated positions in the audio field. Claims 1, 15, and 29 are met. As to claims 2, 16, and 30, the offset is controlled such as to stabilize the sound sources with regard to a user's body and a vehicle (aircraft) in which the user is traveling. Regarding claims 3, 17, and 31, the different stabilizations are a user's head for alarms and a vehicle for external threats such as missiles. Per claims 4, 18, and 32, the offsets are controlled by user personalization through memory card 16 (see column 3 lines 47-59). As to claims 10, 24, and 38, the real world direction label is the sound indicating the presence of an external threat. The counter measure unit 5 is used to detect the threat and send information to the sound source manager 12 to localize its point of arrival. Regarding claims 11, 25, and 39, Courneau discloses a co-pilot sound source which reads on a real world direction label wherein the co-pilot's voice itself is a label.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 5, 19, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Courneau in view of Connor et al, US Patent 5,889,843. Courneau does not disclose that some of the items represented by sound sources are audio labels for services, the services being selected by the user of a corresponding audio label. Connor et al disclose a spatial processing method and system comprising three sources 18, 20, and 22, and spatial processors 36, 38, and 40 for rendering the 3-D spatial audio image to an user. There is disclosed a graphical user interface 76 in figure 5 that displays services (also shown in figure 1) that can be selected for

focusing the corresponding audio output to the foreground of the user's listening environment by increasing its volume and localizing it in the center. The selection is done by directional controller 27. Thus, Connor et al teach user selection of a service by selection of a corresponding audio label sound source whereby the audio label is the service sound source with a decreased volume level. It would have been obvious to one of ordinary skill in the art at the time of invention to modify Courneau per the teachings of Connor et al by implementing a user interface for specifying the most important sound sources to be heard by the user which would have added versatility.

Claims 6, 7, 20, 21, 34 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Courneau in view of Slezak, US Patent 6,647,119. Courneau does not disclose an audio cursor having an associated distinctive sound, the cursor having its own audio field reference. Slezak discloses a system and method for providing spatialization of audio. As illustrated in figure 9 and disclosed in column 9 lines 26-48, there is an embodiment which has a cursor 250 which moves about a screen, said cursor 250 having an associated sound source 252 that conveys the position of the cursor 250. Therefore, it was well known to have an audio cursor having an associated distinctive sound, the cursor being controllable by the user. The advantage of such a cursor enhances understanding of displayed information and improves user interaction. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Courneau to have an audio cursor with an associated sound for improving the user interaction needed for setting the personalization of the audio signals. Per claims 7, 21, and 35, the combination of Courneau and Slezak teaches a head stabilized cursor, as the cursor on a screen does not move with respect to an user's movement.

Claims 8, 9, 22, 23, 36, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Courneau in view of Slezak as applied to claims 6, 20, and 34 above, and further in view of Connor. The combination of Courneau and Slezak does not disclose using an audio cursor to select a non-cursor item and provide a selection command input. Connor discloses using a user input to select a service having a corresponding audio label. Thus, it was well known to select an audio sound source is a spatial sound environment with the benefit of focusing the user's attention on an item of interest. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the combination of Courneau and Slezak by using its audio cursor to select between audio sources, per the teachings of Connor.

Claims 12-14, 26-28, and 40-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Courneau et al in view of Layton et al, US Patent Application Publication 2003/0031334. Courneau does not disclose that in response to a user's request the current direction of facing of the user is indicated through a corresponding sound source, in real world terms. Layton discloses a sonic landscape system comprising position detection and orientation system 11, geographical marker database 14, track player determination unit 13 and rendering engine 12. Position detection and orientation system 11 determines the global position of the listener. The geographical marker database 14 is used to choose an audio track which corresponds to the location and the head orientation of the listener. The tracks are spatialized through rendering engine 12. Layton discloses indicating a sound source corresponding to the direction of which a user is facing. It would have been obvious to one of ordinary skill in the art at the time of invention to modify Courneau per the teachings of Layton in order to increase user awareness of his/her surrounding environment through the indication of the direction of external

sounds. Claims 12, 26, and 40 are met. As to claims 13, 27, and 41, Courneau discloses an inertial unit 4 and Layton discloses a global position system which is based on a compass bearing. Per claims 14, 28, and 42, Layton discloses in figure 5 an identifier of what lies in the user's facing direction in the real world and it would have been obvious to implement such teaching in Courneau.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian T. Pendleton whose telephone number is (571) 272-7527. The examiner can normally be reached on M-F 7-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on (571) 272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brian T. Pendleton
Examiner
Art Unit 2644

btp